

Practice: 314 - Brush Management**Scenario: #1 - Mechanical Treatment for 11-30% Canopy Cover****Scenario Description:**

Use of mechanical methods, such as bulldozer, grubber, or excavator, to treat brush with canopy cover of 11-30%. Also includes the use of mechanical methods used for top removal requiring a chemical application of the stump for all root-sprouting species.

Before Situation:

Rangeland health assessment, brush inventory or other approved assessment shows brush species exceed acceptable levels as documented in an ecological site description. Invading brush plants are contributing to degraded plant condition and diversity, degraded wildlife habitat and ecological function. Plants are in the early stages of infesting and canopy cover of brush species is 11-30% as documented in a brush inventory.

After Situation:

Brush has been treated to a level which results in improved plant condition, forage production, or wildlife habitat. This Practice is for the implementation of brush management on range, pasture or native pasture in Oklahoma or Texas using mechanical methods. The methods of control may be bulldozer, grubber, excavator, hydraulic shears, hydro-ax, or any other piece of equipment that is motorized or pull-behind that meets the specifications described in the Brush Management (Practice Code 314) conservation Practice standard.

Scenario Feature Measure: Acres of brush managed

Scenario Unit: Acre

Scenario Typical Size: 120

Scenario Cost: \$18,332.17

Scenario Cost/Unit: \$152.77

Cost Details (by category):

Component Name	ID	Component Description	Unit	Price (\$/unit)	Quantity	Cost
Equipment/Installation						
Dozer, 140 HP	927	Track mounted Dozer with horsepower range of 125 to 160. Equipment and power unit costs. Labor not included.	Hour	\$105.78	140	\$14,809.20
Labor						
Equipment Operators, Heavy	233	Includes: Cranes, Hydraulic Excavators >=50 HP, Dozers, Paving Machines, Rock Trenchers, Trenchers >=12", Dump Trucks, Ag Equipment >=150 HP, Scrapers, Water Wagons.	Hour	\$23.61	140	\$3,305.40
Mobilization						
Mobilization, medium equipment	1139	Equipment with 70-150 HP or typical weights between 14,000 and 30,000 pounds.	Each	\$217.57	1	\$217.57

Practice: 314 - Brush Management**Scenario: #2 - Mechanical Treatment for 31-50% Canopy Cover****Scenario Description:**

Use of mechanical methods, such as bulldozer, grubber, or excavator, to treat brush with canopy cover of 31-50%. Also includes the use of mechanical methods used for top removal requiring a chemical application of the stump for all root-sprouting species.

Before Situation:

Rangeland health assessment, brush inventory or other approved assessment shows brush species exceed acceptable levels as documented in an ecological site description. Invading brush plants are contributing to degraded plant condition and diversity, degraded wildlife habitat and ecological function. Invading plants are infesting the field and canopy cover of brush species is 31-50% as documented in a brush inventory.

After Situation:

Brush has been treated to a level which results in improved plant condition, forage production, or wildlife habitat. This Practice is for the implementation of brush management on range, pasture or native pasture in Oklahoma or Texas using mechanical methods. The methods of control may be bulldozer, grubber, excavator, hydraulic shears, hydro-ax, or any other piece of equipment that is motorized or pull-behind that meets the specifications described in the Brush Management (Practice Code 314) conservation Practice standard.

Scenario Feature Measure: Acres of brush managed

Scenario Unit: Acre

Scenario Typical Size: 120

Scenario Cost: \$29,330.32

Scenario Cost/Unit: \$244.42

Cost Details (by category):

Component Name	ID	Component Description	Unit	Price (\$/unit)	Quantity	Cost
Equipment/Installation						
Dozer, 140 HP	927	Track mounted Dozer with horsepower range of 125 to 160. Equipment and power unit costs. Labor not included.	Hour	\$105.78	225	\$23,800.50
Labor						
Equipment Operators, Heavy	233	Includes: Cranes, Hydraulic Excavators >=50 HP, Dozers, Paving Machines, Rock Trenchers, Trenchers >=12", Dump Trucks, Ag Equipment >=150 HP, Scrapers, Water Wagons.	Hour	\$23.61	225	\$5,312.25
Mobilization						
Mobilization, medium equipment	1139	Equipment with 70-150 HP or typical weights between 14,000 and 30,000 pounds.	Each	\$217.57	1	\$217.57

Practice: 314 - Brush Management**Scenario: #3 - Mechanical Treatment for >51% Canopy Cover****Scenario Description:**

Use of mechanical methods, such as bulldozer, grubber, or excavator, to treat brush with canopy cover of greater than 51%. Also includes the use of mechanical methods used for top removal requiring a chemical application of the stump for all root-sprouting species.

Before Situation:

Rangeland health assessment, brush inventory or other approved assessment shows brush species exceed acceptable levels as documented in an ecological site description. Invading brush plants are contributing to degraded plant condition and diversity, degraded wildlife habitat and ecological function. Canopy cover of brush species is greater than 51% as documented in a brush inventory.

After Situation:

Brush has been treated to a level which results in improved plant condition, forage production, or wildlife habitat. This Practice is for the implementation of brush management on range, pasture or native pasture in Oklahoma or Texas using mechanical methods. The methods of control may be bulldozer, grubber, excavator, hydraulic shears, hydro-ax, or any other piece of equipment that is motorized or pull-behind that meets the specifications described in the Brush Management (Practice Code 314) conservation Practice standard.

Scenario Feature Measure: Acres of brush managed

Scenario Unit: Acre

Scenario Typical Size: 120

Scenario Cost: \$45,977.90

Scenario Cost/Unit: \$383.15

Cost Details (by category):

Component Name	ID	Component Description	Unit	Price (\$/unit)	Quantity	Cost
Equipment/Installation						
Dozer, 200 HP	928	Track mounted Dozer with horsepower range of 160 to 250. Equipment and power unit costs. Labor not included.	Hour	\$158.64	250	\$39,660.00
Labor						
Equipment Operators, Heavy	233	Includes: Cranes, Hydraulic Excavators >=50 HP, Dozers, Paving Machines, Rock Trenchers, Trenchers >=12", Dump Trucks, Ag Equipment >=150 HP, Scrapers, Water Wagons.	Hour	\$23.61	250	\$5,902.50
Mobilization						
Mobilization, large equipment	1140	Equipment >150HP or typical weights greater than 30,000 pounds or loads requiring over width or over length permits.	Each	\$415.40	1	\$415.40

Practice: 314 - Brush Management**Scenario: #5 - Individual Plant Treatment Low 50-200 Plant per Acre****Scenario Description:**

This Practice is for the implementation of brush management on range, pasture or native pasture in Oklahoma or Texas using Chemical Individual Plant Treatment (IPT) or hand cutting. Hand cutting includes using hand tools, such as axes, shovels, hoes, nippers, brush pullers, or chainsaws to remove or cut off woody plants at or below the root collar. This scenario is for areas with 50-200 plants per acre.

Before Situation:

Rangeland health assessment, brush inventory or other approved assessment shows brush species exceed acceptable levels as documented in an ecological site description. Invading brush plants are contributing to degraded plant condition and diversity, degraded wildlife habitat and ecological function. Cover density, stem counts or other approved assesment has been documented in a brush inventory. Densities of brush exceed levels in the Texas or Oklahoma Conservation Practice Standard 314, Brush Management.

After Situation:

Brush has been treated to a level which results in improved plant condition, forage production, or wildlife habitat. The typical method of control is application of herbicides (basal or foliar location) on selected individual plants. Mechanical (hand grubbing, ax, cut stump, etc.) may also be used. This practice will be applied to fully comply with the Brush Management (Practice Code 314) conservation practice standard.

Scenario Feature Measure: Acres of brush managed

Scenario Unit: Acre

Scenario Typical Size: 40

Scenario Cost: \$1,070.34

Scenario Cost/Unit: \$26.76

Cost Details (by category):

Component Name	ID	Component Description	Unit	Price (\$/unit)	Quantity	Cost
Equipment/Installation						
Chemical, spot treatment, single stem application	964	Ground applied chemical to individual plants or group of plants, e.g., backpack sprayer treatment. Equipment and labor cost included.	Hour	\$48.33	8	\$386.64
All terrain vehicles, ATV	965	Includes equipment, power unit and labor costs.	Hour	\$26.07	10	\$260.70
Materials						
Herbicide, Triclopyr	338	Refer to WIN-PST for product names and active ingredients. Materials and shipping	Acre	\$42.30	10	\$423.00

Practice: 314 - Brush Management**Scenario: #6 - Individual Plant Treatment High 201-400 Plants per Acre****Scenario Description:**

This Practice is for the implementation of brush management on range, pasture or native pasture in Oklahoma or Texas using Chemical Individual Plant Treatment (IPT) or hand cutting. Hand cutting includes using hand tools, such as axes, shovels, hoes, nippers, brush pullers, or chainsaws to remove or cut off woody plants at or below the root collar. This scenario is for areas with 201-400 plants per acre.

Before Situation:

Rangeland health assessment, brush inventory or other approved assessment shows brush species exceed acceptable levels as documented in an ecological site description. Invading brush plants are contributing to degraded plant condition and diversity, degraded wildlife habitat and ecological function. Cover density, stem counts or other approved assessment has been documented in a brush inventory. Densities of brush exceed levels in the Texas or Oklahoma Conservation Practice Standard 314, Brush Management.

After Situation:

Brush has been treated to a level which results in improved plant condition, forage production, or wildlife habitat. The typical method of control is application of herbicides (basal or foliar location) on selected individual plants. Mechanical (hand grubbing, ax, cut stump, etc.) may also be used. This practice will be applied to fully comply with the Brush Management (Practice Code 314) conservation practice standard.

Scenario Feature Measure: Acres of brush managed

Scenario Unit: Acre

Scenario Typical Size: 40

Scenario Cost: \$2,384.75

Scenario Cost/Unit: \$59.62

Cost Details (by category):

Component Name	ID	Component Description	Unit	Price (\$/unit)	Quantity	Cost
Equipment/Installation						
Chemical, spot treatment, single stem application	964	Ground applied chemical to individual plants or group of plants, e.g., backpack sprayer treatment. Equipment and labor cost included.	Hour	\$48.33	20	\$966.60
All terrain vehicles, ATV	965	Includes equipment, power unit and labor costs.	Hour	\$26.07	15	\$391.05
Labor						
General Labor	231	Labor performed using basic tools such as power tool, shovels, and other tools that do not require extensive training. Ex. pipe layer, herder, concrete placement, materials spreader, flagger, etc.	Hour	\$18.11	10	\$181.10
Materials						
Herbicide, Triclopyr	338	Refer to WIN-PST for product names and active ingredients. Materials and shipping	Acre	\$42.30	20	\$846.00

Practice: 314 - Brush Management**Scenario: #7 - Chemical Treatment, Broadcast, Aerial or Ground****Scenario Description:**

Aerial or ground broadcast use of herbicides to control undesirable brush species, such as mesquite, huisache, osage orange, and other associated brush species.

Before Situation:

Rangeland health assessment, brush inventory or other approved assessment indicates that brush species exceed acceptable levels as documented in an ecological site description. Invading brush plants are contributing to degraded plant condition and diversity, degraded wildlife habitat and ecological function. Brush species density, canopy cover, canopy height, and or terrain dictate efficient use of broadcast methods.

After Situation:

Brush has been treated to a level which results in improved plant condition, forage production, or wildlife habitat. : This Practice is for the implementation of brush management on range, pasture or native pasture in Oklahoma or Texas using application of approved herbicide. The chemical will be the appropriate type and rate for the identified target brush species as per the Brush Management (Practice Code 314) conservation Practice standard and will be aerial or ground broadcast applications. The purpose is to promote forage productivity and improve ecological condition.

Scenario Feature Measure: Acres of brush managed

Scenario Unit: Acre

Scenario Typical Size: 160

Scenario Cost: \$6,691.55

Scenario Cost/Unit: \$41.82

Cost Details (by category):

Component Name	ID	Component Description	Unit	Price (\$/unit)	Quantity	Cost
Equipment/Installation						
Truck, Pickup	939	Equipment and power unit costs. Labor not included.	Hour	\$31.63	7	\$221.41
Chemical, aerial application, fixed wing	947	Chemical application performed by fixed wing aircraft. Includes equipment, power unit and labor costs.	Acre	\$7.56	160	\$1,209.60
Labor						
Supervisor or Manager	234	Labor involving supervision or management activities. Includes crew supervisors, foremen and farm/ranch managers time required for adopting new technology, etc.	Hour	\$37.95	4	\$151.80
Materials						
Herbicide, Picloram	337	Refer to WIN-PST for product names and active ingredients. Includes materials and shipping only.	Acre	\$19.12	160	\$3,059.20
Herbicide, Surfactant	1095	Surfactants reduce the surface tension of water to produce more uniform coverage and penetration of herbicides, and weed killers. Paraffin Based Petroleum Surfactant. Refer to WIN-PST for product names and active ingredients. Includes materials and shipping only.	Acre	\$1.32	160	\$211.20
Herbicide, Triclopyr	338	Refer to WIN-PST for product names and active ingredients. Materials and shipping	Acre	\$42.30	40	\$1,692.00
Mobilization						
Mobilization, small equipment	1138	Equipment <70 HP but can't be transported by a pick-up truck or with typical weights between 3,500 to 14,000 pounds.	Each	\$146.34	1	\$146.34

Practice: 314 - Brush Management**Scenario: #9 - Chemical Broadcast Tebuthiuron 1.0 lb Rate****Scenario Description:**

Broadcast use of Tebuthiuron applied aurally or by ground to create mosaics or patterns for the control of undesirable brush species, such as shinnery oak or other associated species.

Before Situation:

Rangeland health assessment, brush inventory or other approved assessment shows brush species exceed acceptable levels as documented in an ecological site description. Invading brush plants are contributing to degraded plant condition and diversity, degraded wildlife habitat and ecological function.

After Situation:

Brush has been treated to a level which results in improved plant condition, forage production, or wildlife habitat. This Practice is for the implementation of brush management on range, pasture or native pasture in Oklahoma or Texas using application of approved herbicide. The chemical will be the appropriate type and rate for the identified target brush species as per the Brush Management (Practice Code 314) conservation Practice Standard.

Scenario Feature Measure: Acres of brush managed

Scenario Unit: Acre

Scenario Typical Size: 40

Scenario Cost: \$2,389.61

Scenario Cost/Unit: \$59.74

Cost Details (by category):

Component Name	ID	Component Description	Unit	Price (\$/unit)	Quantity	Cost
Equipment/Installation						
Chemical, aerial application, fixed wing	947	Chemical application performed by fixed wing aircraft. Includes equipment, power unit and labor costs.	Acre	\$7.56	40	\$302.40
Truck, Pickup	939	Equipment and power unit costs. Labor not included.	Hour	\$31.63	2	\$63.26
Labor						
Supervisor or Manager	234	Labor involving supervision or management activities. Includes crew supervisors, foremen and farm/ranch managers time required for adopting new technology, etc.	Hour	\$37.95	2	\$75.90
Materials						
Herbicide, Tebuthiuron	343	A nonselective broad spectrum herbicide used to control weeds, woody and herbaceous plants, and sugar cane. Refer to WIN-PST for product names and active ingredients. Includes materials and shipping only.	Acre	\$61.31	27	\$1,655.37
Mobilization						
Mobilization, small equipment	1138	Equipment <70 HP but can't be transported by a pick-up truck or with typical weights between 3,500 to 14,000 pounds.	Each	\$146.34	2	\$292.68

Practice: 314 - Brush Management**Scenario: #11 - Chemical Broadcast Tebuthiuron 2.0 lb Rate****Scenario Description:**

Broadcast use of Tebuthiuron applied aerially or by ground to create mosaics or patterns for the control of undesirable brush species, such as live oak, post oak, mixed brush in the Davis Mountains, or other associated species.

Before Situation:

Rangeland health assessment, brush inventory or other approved assessment shows brush species exceed acceptable levels as documented in an ecological site description. Invading brush plants are contributing to degraded plant condition and diversity, degraded wildlife habitat and ecological function.

After Situation:

Brush has been treated to a level which results in improved plant condition, forage production, or wildlife habitat. This Practice is for the implementation of brush management on range, pasture or native pasture in Oklahoma or Texas using application of approved herbicide. The chemical will be the appropriate type and rate for the identified target brush species as per the Brush Management (Practice Code 314) conservation Practice Standard.

Scenario Feature Measure: Acres of brush managed

Scenario Unit: Acre

Scenario Typical Size: 40

Scenario Cost: \$3,886.95

Scenario Cost/Unit: \$97.17

Cost Details (by category):

Component Name	ID	Component Description	Unit	Price (\$/unit)	Quantity	Cost
Equipment/Installation						
Chemical, aerial application, fixed wing	947	Chemical application performed by fixed wing aircraft. Includes equipment, power unit and labor costs.	Acre	\$7.56	40	\$302.40
Truck, Pickup	939	Equipment and power unit costs. Labor not included.	Hour	\$31.63	8	\$253.04
Labor						
Supervisor or Manager	234	Labor involving supervision or management activities. Includes crew supervisors, foremen and farm/ranch managers time required for adopting new technology, etc.	Hour	\$37.95	8	\$303.60
Materials						
Herbicide, Tebuthiuron	343	A nonselective broad spectrum herbicide used to control weeds, woody and herbaceous plants, and sugar cane. Refer to WIN-PST for product names and active ingredients. Includes materials and shipping only.	Acre	\$61.31	47	\$2,881.57
Mobilization						
Mobilization, small equipment	1138	Equipment <70 HP but can't be transported by a pick-up truck or with typical weights between 3,500 to 14,000 pounds.	Each	\$146.34	1	\$146.34

Practice: 314 - Brush Management**Scenario: #13 - Individual Stem Injection****Scenario Description:**

A densely stocked oak/hickory stand will be thinned to a basal area of 40-60 sqft/acre, in an effort to improve wildlife habitat by creating an open canopy, moderately stocked, mature savanna with an herbaceous understory. Thinning the stand improvement will occur using applications that include hack-n-squirt, basal bark, girdling or stump cut. This practice only applies to a land use meeting the official NRCS definition of "Rangeland". For land uses designated as forest, refer to Forest Stand Improvement (666).

Before Situation:

The stand is overstocked resulting in a closed canopy which provides very little sunlight to reach the herbaceous layer of the site. The basal area is excessively high and herbaceous ground cover is minimal. This condition is causing a lack of structure, herbaceous layer, and diversity that is needed to meet the landowner's objectives for improved wildlife habitat and rangeland health. Resource concerns include: Inadequate structure and composition, undesirable plant productivity and health, and habitat degradation.

After Situation:

Selected brush will be targeted for control which will reduce the canopy cover and number of trees per acre. The stand will evolve toward an open canopy, moderately stocked, mature savanna with an herbaceous understory, thus improving the wildlife habitat of the desirable wildlife species. The canopy is opened to the extent necessary to promote herbaceous growth and the work is performed with minimal damage to the residual trees on the site.

Scenario Feature Measure: Acres treated

Scenario Unit: Acre

Scenario Typical Size: 10

Scenario Cost: \$899.05

Scenario Cost/Unit: \$89.91

Cost Details (by category):

Component Name	ID	Component Description	Unit	Price (\$/unit)	Quantity	Cost
Equipment/Installation						
Chemical, spot treatment, single stem application	964	Ground applied chemical to individual plants or group of plants, e.g., backpack sprayer treatment. Equipment and labor cost included.	Hour	\$48.33	13	\$628.29
Truck, Pickup	939	Equipment and power unit costs. Labor not included.	Hour	\$31.63	2	\$63.26
Materials						
Herbicide, Imazapyr	336	Pre and post-emergent, non-selective herbicide for control of undesirable vegetation in non-crop areas. Refer to WIN-PST for product names and active ingredients. Includes materials and shipping only.	Acre	\$41.50	5	\$207.50